

## Meta-Kaolinite

### PHYSICAL PROPERTIES

Appearance	Pale Yellow
Physical form	Powder
Moisture %	max. 1
Specific gravity	2.6
Loss of Ignition at 975 °C	max. 3

### CHEMICAL PROPERTIES

Parameter	Value
SiO <sub>2</sub>	56-59 %
Al <sub>2</sub> O <sub>3</sub>	36-39 %
Fe <sub>2</sub> O <sub>3</sub>	1.0 – 1.3%
TiO <sub>2</sub>	1.5- 2.3 %
CaO	0.15 – 0.25%
MgO	0.1 – 0.2 %
Na <sub>2</sub> O	0.10 – 0.18 %
K <sub>2</sub> O	0.15 – 0.22 %
MnO	0.10 – 0.12 %
PH value	6-7

## Meta-Kaolinite

### 1- Chemical identity and Supplier

- Chemical name: Meta kaolin
- Other names: Calcined kaolin, refined kaolin
- Recommended use of the product: cementitious systems
- Supplier: The international stone maker ( Facestone )

Egyptian Sharing Company (Manufacturer)

### 2- Composition/ information about ingredient

- | - Composition ingredient: | C.A.S. No | Hazardous codes |
|---------------------------|-----------|-----------------|
| - Calcined kaolin         | 1332-58-7 | non- hazardous  |

### 3-Physical & Chemical Data

- |                             |                        |
|-----------------------------|------------------------|
| -Physical state:            | Solid                  |
| -Specific gravity at 20 °C: | 2.4 – 2.7              |
| -Appearance:                | pale yellow            |
| -Odor:                      | Odorless               |
| -Solubility in water:       | insoluble in water     |
| -boiling point/ range       | Not pertinent          |
| -Molecular formula:         | $Al_2O_3 \cdot 2SiO_2$ |

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## 4-Fire/ Explosion Hazard Data

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-Flammability:	No
Flash point:	Not pertinent
-Auto ignition temperature:	Not pertinent
-Explosion to sensitivity impact:	Stable
-Explosion sensitivity to static electricity:	Stable
-Compostable liquid:	No
-Flammable material:	No
-Pyrophoric material:	No
-Explosion material:	No
-Oxidizer:	No

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## 5-Reactivity data

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-Chemical stability:	Stable
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## 6-Health Hazard Data

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-Routes of entry: Inhalation, ingestion, skin and eyes

-Effect of exposure (symptoms): Inhalation of finally divided dust may cause irritation of the mucous membrane. Finally divided dust may cause irritation and dehydration of eye and nose

Emergency treatment:

**Inhalation** remove person from dusty area to fresh air.

(First aid measures)

**ingestion** :not applicable.

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**Eyes exposure** :wash with plenty of water/saline solution, if discomfort persist obtain medical assistance.

**Skin contact** : wash contaminated skin with water or mild detergent.

-Chronic effect: Inhalation of meta kaolin is considered to entail minimum risk on pulmonary fibrosis (silicosis), however chronic obstructive lung disease is suspected following long term exposure (years) for concentration above the recommended limits.

-Disposal considerations:The material should be recovered for recycling if possible.

This material is not classified as hazardous waste

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## 7-Preventive measures

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-Avoid inhalation of the dust. Ensure good dust ventilation during use.

-Wear standard respirator during dust generating operations.

- Facilities for eye washing should be available.

- Use protective rubber gloves, safety goggles, face shield, and dust musk.

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## 8-Handling and storage precautions

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Handling: Avoid dust generation

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Storage: Keep in a dry place. When handled pneumatically use standard dust filter on vehicle and silos

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Spills: In case of spills, collect without making dust; wash the area with water and soap.

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Waste disposal method: Seal all wastes in vapor tight plastic bags for eventual disposal.

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## 9-Emergency/ First aid measures

Fire fighting: Meta kaolin is not combustible and the dust entails no danger of explosion.

Extinguishing media: Not applicable

First aid measures: Remove the victim to fresh air area, rinse nose and mouth with water.

## 10- Exposure Controls and Personal Protection

<b>Components with limit values that require monitoring at the workplace:</b>	
<b>1332-58-7 natural aluminosilicate (Kaolin)</b>	
<b>PEL</b>	15 mg/m <sup>3</sup> total dust 5mg/m <sup>3</sup> respirable fraction OSHA TWA
<b>REL</b>	10 mg/m <sup>3</sup> total dust 5 mg/m <sup>3</sup> respirable fraction NIOSH TWA
<b>TLV</b>	2 mg/m <sup>3</sup> respirable fraction ACGIH TWA
<b>14808-60-7 quartz (SiO<sub>2</sub>)</b>	
<b>PEL</b>	10 mg/m <sup>3</sup> ÷ (%quartz+2) OSHA TWA
<b>REL</b>	0.05 g/m <sup>3</sup> respirable dust NIOSH TWA
<b>TLV</b>	0.025 mg/m <sup>3</sup> ACGIH TWA

**Engineering Controls:** Use adequate ventilation to keep airborne concentrations as low as practicable.

### **Personal Protective Equipment:**

**Eyes:** Wear approved safety glasses or chemical goggles. Facilities for eye flushing should be available.



**Skin:** Wear non-porous gloves when handling.

## Section 11 – Stability and Reactivity

**Chemical Stability:** Stable under ambient temperatures and pressures.

**Reactivity:** Product is intended for use as a pozzolan as partial replacement of Portland cement in concrete or other cement based products. Pozzolans react with Ca(OH) from the hydration of hydraulic cement to produce Calcium Silicate Hydrates (CSH). CSH are highly stable minerals under normal ambient conditions. Product may react with lime or quicklime (Ca(OH)) in the presence of water. Otherwise, product is stable and chemically inert with no hazardous decomposition products.

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## Section 12 – Toxicological Information

**RTECS#:** 1332-58-7: GF 1670500 -Kaolin

**LD50/LC50:** 1408-60-7: VV 7330000 - Quartz

**Carcinogenicity:** Not available

**Epidemiology:** Quartz (crystalline silica) is an IARC Group 1 carcinogen

**Teratogenicity:** No documented effects

**Reproductive effects:** No documented effects

**Neurotoxicity:** No documented effects

**Mutagenicity:** No documented effects

**Iritancy of product** No documented effects

**Skin/respiratory sensitization** No documented effects

**Synergistic Products/effects** Intended use is for partial replacement of Portland cement in concrete or Portland cement based products. Effects are not synergistic. Follow recommendations for use of Portland cement.

### **Other Studies:**

An epidemiological study performed on workers in the kaolin processing industry showed that the incidence of lung disease was not significantly higher than the general population. However, the study also showed that prolonged inhalation of high concentrations of dust could cause detectable deposits in the lungs.

This product contains up to 20% quartz, which may cause cancer, silicosis or other fibrotic lung diseases with prolonged exposure. The most recent IARC classification of crystalline silica (quartz) is that crystalline silica inhaled in the form of quartz or cristobalite from occupational sources is carcinogenic to humans (Group 1). These conditions are preventable through the use of engineering controls and the use of appropriate respirators. White mud Resources Inc. knows of no medical conditions abnormally aggravated by exposure to this product. The primary route of entry is inhalation. Kaolin has GRAS status (generally recognized as safe for a specified use) related to the manufacture of food packaging materials.

## Section 13 – Ecological Information

No adverse ecological effects are expected. May affect turbidity of water if discharged in large quantities to lakes or streams

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## Section 14 – Disposal Considerations

Metakaolin is a non-hazardous waste. Disposal must follow local landfill laws and regulations as well as provincial and federal (Canada) and state and federal (US) requirements.

## Section 15 – Transport Information

	<b>Canada - TDG</b>	<b>US -DOT</b>
<b>Shipping Name</b>	Metakaolin	Metakaolin
<b>Hazard Class</b>	Not Regulated	Not Regulated
<b>UN Number</b>	Not Regulated	Not Regulated
<b>Packing Group</b>	Not Regulated	Not Regulated

## Section 16– Regulatory Information

**US Federal TSCA CAS# 1332-58-7** is listed on the TSCA Inventory.

**Health and Safety Reporting List:** None of the components are on the Health and Safety Reporting List.

**Chemical Test Rules:**None of the components in this product are under a Chemical test Rule.

**Section 12b:**None of the components are listed under TSCA Section 12b.

**Significant New Use Rule:** None of the components in this product have a SNUR under TSCA.

**CERCLA Hazardous Substances And corresponding RQs:**None of the components in this product have an RQ.

**SARA Section 302 Extremely Hazardous Substances:** None of the components in this product have a TPQ.

**Section 313: Clean Air Act:** No components are reportable under Section 313.

**Clean Water Act:** None of the components in this product are listed as Hazardous Substances, Priority Pollutants or Toxic Pollutants under the CWA.

**State:** Kaolin can be found on the following state right to know lists: California (listed as Silica, amorphous), Pennsylvania, Minnesota, Massachusetts.

## Disclaimer:

The information contained in this MSDS is believed to be reliable but no representation, guarantee or warranties of any kind are made as to its accuracy or suitability for a particular application or results to be obtained from them. It's up to the manufacturer or seller to ensure that the information contained in the MSDS is relevant to the product manufactured / handled or sold by him as the case may be. This document is intended only as a guide to appropriate precautionary handling of the material by a properly trained person using this product. Individual receiving the information must exercise their independent judgment in determining its appropriateness for a particular purpose.

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